MAIL STOP APPEAL BRIEF
PATENT
3502-1092

IN THE U.S. PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Sixten JOHANSSON Appeal No._____

Application No. 10/695,410 Group 2416

Filed October 27, 2003 Examiner P. Tran

METHODS, SYSTEM, AND NETWORK ENTITY
FOR PERFORMING A SWITCH-OVER

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS: April 21, 2009

1) **Real Party in Interest**

The real party in interest in this appeal is the assignee, Tellabs Oy of Espoo, Finland.

2) **Related Appeals and Interferences**

None.

3) **Status of Claims**

Claims 1-22 are pending. This appeal is taken from the final rejection of each of claims 1-22.

4) **Status of Amendments**

No amendment was filed subsequent to the final rejection of the claims on appeal.

5) **Summary of Claimed Subject Matter**

Each of independent claims 1, 13, 14, 15 and 18 is directed to communicating data over a communication link (see specification page 1, lines 5-6).

Claim 1 recites a system for performing a switch-over in data communication within a data computing device in accordance with protection switching data communication principles. The system comprises the data computing device arranged to operate in a data network according to the protection switching data communication principles (see page 2, lines 23-25). The data computing device comprises a configurable integrated circuit of a unit of the data computing device for signaling a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair unit of the unit of the data computing device (see page 2, lines 25-28). The configurable integrated circuit of the protecting pair unit of the data computing device is structured and arranged to perform the switch-over independently of a CPU, when the switch-over is needed (see page 8, lines 20-23).

Claim 13 differs from claim 1 by being directed to a data computing device.

Claim 13 recites the following features of claim 1:

performing a switch-over in data communication within a data computing device in accordance with protection switching data communication principles.

the data computing device arranged to operate in a data network according to the protection switching data communication principles. Page 2, lines 23-25.

a configurable integrated circuit of a unit of the data computing device for signaling a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair unit of the unit of the data computing device. Page 2, lines 25-28.

the configurable integrated circuit of the protecting pair unit of the data computing device is structured and arranged to perform the switch-over independently of a CPU, when the switch-over is needed. Page 8, lines 20-23.

Claim 14 differs from claim 1 by being directed to a configurable integrated circuit card.

Claim 14 recites the following features of claim 1:

performing a switch-over in data communication within a data computing device in accordance with protection switching data communication principles.

the configurable integrated circuit of the protecting pair unit of the data computing device is structured and arranged

to perform the switch-over independently of a CPU, when the switch-over is needed. Page 8, lines 20-23.

The features of claim 14 that are different from claim 1 are that a configurable integrated circuit card of said data computing device signals a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair card of said card of said data computing device (see page 8, line 24 to page 9, line 11).

Claim 15 differs from claim 1 by being directed to a method of performing a switch-over.

Claim 15 recites the following features of claim 1:

performing a switch-over in data communication within a data computing device in accordance with protection switching data communication principles.

The features of claim 15 that are different from claim 1 are signaling a need for the switch-over in real time based data communication from a configurable integrated circuit of a unit of said data computing device to a configurable integrated circuit of a protecting pair unit of said unit of the data computing device (see page 9, lines 1-5), and performing the switch-over by the configurable integrated circuit of the protecting pair unit of the data computing device independently of a CPU (see page 9,lines 5-8). The data computing device is arranged to operate in a data network according to the protection switching data communication principles and contains both the

configurable integrated circuit of the unit and the configurable integrated circuit of the protecting pair unit (see page 3, lines 3-8).

Claim 18 differs from claim 1 by being directed to a computer readable medium encoded with a computer program comprising a program of instructions executable by a computing system.

Claim 18 recites the following feature of claim 1:

a switch-over in data communication within a data computing device in accordance with protection switching data communication principles.

The features of claim 18 that are different from claim 1 are that computer program code causes the system to signal a need for the switch-over in real time based data communication from a configurable integrated circuit of a unit of said data computing device to a configurable integrated circuit of a protecting pair unit of said unit of said data computing device, and computer program code causes the system to perform the switch-over by said configurable integrated circuit of said protecting pair unit of said data computing device independently of a CPU when the switch-over is needed (see page 13, lines 4-12). The data computing device is arranged to operate in a data network according to the protection switching data communication principles and contains both the configurable integrated circuit

of the unit and the configurable integrated circuit of the protecting pair unit (see page 10, lines 19-21).

6) **Ground of Rejection to be Reviewed on Appeal**

The sole issue on appeal is whether claims 1-22 are anticipated under 35 USC §102(e) based on SHABTAY et al. US 7,093,027.

7) **Argument**

Claims 1-22 are not anticipated by SHABTAY

Independent claims 1, 13, 14, 15 and 18 recite that a switch-over in data communication is within a data computing device and that the switch-over is performed independently of a CPU.

Page 5, paragraph 3 of the final rejection mistakenly states that the claims do not require the devices to be the same.

However, appellants are not asserting that communication is between two of the same devices. Rather, the claims require that communication is within the device. That is, communication within a single device (within the same device), not between two devices as in SHABTAY.

SHABTAY clearly discloses communication between two devices. In column 10, lines 40-43 SHABTAY explains this by

stating that “Note that the edge switches within the same stack may be in close proximity or may be far apart from each other. For example, each switch may be located in a different multi-tenant dwelling or in different cities or towns”.

As recognized by one of ordinary skill in the art, an edge switch is always a different physical equipment (i.e. different data computing device, please see general definition of this specific art in, for example Wikipedia, which provides that “Edge devices may translate between one type of network protocol and another.” For example, ATM networks send data in cells and use connection-oriented virtual circuits. An IP network is packet oriented; so if ATM is used as a core, packets must be encapsulated in cells and the destination address must be converted to a virtual circuit identifier. Edge devices are responsible for handling this conversion. There is an ingress (input) and egress (output) edge device for all connections. A number of techniques have been devised to move IP packets over switched network topologies using standardized protocols for providing a connection between them over physical cabling.

In SHABTAY, the protocol is Ethernet. It is very common that these edge switches are built up using configurable integrated circuits.

However, the method for a switch-over in a network between two edge switches over physical cabling between the DIFFERENT edge switches using standardized protocols does not meet a switch-over WITHIN, i.e. INSIDE the same physical equipment, i.e. WITHIN the recited data computing device. The recited "within" would require communication within an edge switch. SHABTAY never discloses such communication.

By contrast, the present invention is directed to a method and device for switch-over INSIDE, i.e. within the data computing device as recited in each of the independent claims. Such recitations are distinct from the disclosure of SHABTAY and are NOT a method for switch-over between different edge switches as in SHABTAY.

Rather, the present claims require communication WITHIN the same physical equipment (i.e., a data computing device) the connections between the units are provided over a backplane and the connections between the units can be implemented e.g. via a parallel bus, direct serial links or through a separate switch unit by using vendor specific non-standard protocols.

Signaling a switch-over between configurable integrated circuits WITHIN, i.e. INSIDE the same physical equipment is implemented via a totally different method than signaling switch-over in a network between two edge switches, since there is no

physical cabling INSIDE the equipment, which would provide the connection between the units inside a single computing device.

WITHIN, i.e. INSIDE a (single) data computing device there are several options for providing a communication path between different units for signaling switch-over, all up to how the backplane connectivity is designed.

The independent claims clearly recite this feature. Claim 1 recites that the switch-over takes place within the data computing device, the data computing device furthermore contains the configurable integrated circuit of the unit, and the configurable integrated circuit of the protecting pair unit is of the data computing device (the genitive express possession)

By contrast, as set forth above, in SHABTAY the protecting pair belongs to a different device, and thus, it cannot be part of the same device unit, i.e. is not of the same device containing the unit of the working connection.

Independent claim 13 recites that the switch-over is performed within the same device, which contains the unit and also by using the genitive case, the protecting pair unit (implicitly it must be within the same device, otherwise the switch over cannot be performed within the device).

The above is also applicable for independents claims 14, 15 and 18.

That is, claims 14, 15 and 18 require that the circuits that perform the switch-over are part of the same switch-over device. Claims 15 and 18 recite "wherein said data computing device … contains **both** the configurable integrated circuit of said unit and said configurable integrated circuit of said protecting pair unit." Emphasis added.

This feature "wherein said data computing device… contains both the configurable integrated circuit of said unit and said configurable integrated circuit of said protecting pair unit" has a clear logical connection with the feature of "within" of the other independent claims. As recognized by one of ordinary skill in the art, if one performs a switch-over within a (single) device, he needs both the unit of the working connection and a protecting pair unit of the protecting connection.

Therefore, although the wording for each independent claim is not exactly the same, nevertheless, the above-noted arguments are applicable to all the independent claims.

The dependent claims are believed to be patentable at least for depending from an allowable independent claim.

In view of the above, it is apparent that one having ordinary skill in the design engineering art reading SHABTAY would not understand such switch-over method to be based on communication within a (single) device.

Conclusion

Appellant respectfully urges that the rejection on appeal should not be maintained, and respectfully requests that this rejection be reversed.

Respectfully submitted,

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8. **Claims Appendix**

1. A system for performing a switch-over in data communication within a data computing device in accordance with protection switching data communication principles, said system comprising said data computing device arranged to operate in a data network according to the protection switching data communication principles, the data computing device comprising:

a configurable integrated circuit of a unit of said data computing device for signaling a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair unit of said unit of said data computing device, and

wherein said configurable integrated circuit of said protecting pair unit of said data computing device is structured and arranged to perform the switch-over independently of a CPU, when the switch-over is needed.

2. A system according to claim 1, wherein the system provides the signaling between the units without a participation of the CPU.

3. A system according to claim 1, wherein the configurable integrated circuit comprises at least one of application-specific integrated circuit and field-programmable gate array.

4. A system according to claim 1, wherein the protection switching comprises a protected LSP based on a working connection and a protecting connection.

5. A system according to claim 1, wherein said unit comprises a working unit in accordance with a LSP working connection and the protection pair unit comprises a protection unit in accordance with a LSP protection connection.

6. A system according to claim 1, wherein the signal comprises a protection message for delivering that the data communication of a receiving unit is at least one of faulty and unfaulty.

7. A system according to claim 1, wherein the real time based data communication presumes the switch-over to take place in less than 50 milliseconds from an occurrence of a connection fault.

8. A system according to claim 1, wherein the data communication comprises at least one of Internet Protocol, Ethernet, and MPLS for real time telecommunication services.

9. A system according to claim 1, wherein Multiprotocol Label Switching is contained as a bearer for the data communication.

10. A system according to claim 12, wherein Multiprotocol Label Switching operates as a backbone for IP based data communication.

11. A system according to claim 1, wherein the real time based data communication is such that human senses any application based on the real time based data communication substantially immediate.

12. A system according to claim 1, wherein the data communication takes place between a source computing entity and a sink computing entity.

13. A data computing device for performing a switch-over in data communication within said data computing device in accordance with a protection switching data communication principles, said data computing device is structured and arranged to operate in a data network according to the protection switching data communication principles, the data computing device comprising:

a configurable integrated circuit of a unit of said data computing device for signaling a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair unit of said unit of said data computing device, and

wherein said configurable integrated circuit of said protecting pair unit of said data computing device is structured and arranged to perform the switch-over independently of a CPU, when the switch-over is needed.

14. A configurable integrated circuit card for performing a switch-over in data communication within a data

computing device in accordance with a protection switching data communication principles,

wherein the configurable integrated circuit card of said data computing device signals a need for the switch-over in real time based data communication to a configurable integrated circuit of a protecting pair card of said card of said data computing device, and

wherein said configurable integrated circuit of said protecting pair unit of said data computing device is structured and arranged to perform the switch-over independently of a CPU, when the switch-over is needed.

15. A method for performing a switch-over in data communication within a data computing device in accordance with a protection switching data communication principles, the method comprising:

signaling a need for the switch-over in real time based data communication from a configurable integrated circuit of a unit of said data computing device to a configurable integrated circuit of a protecting pair unit of said unit of said data computing device, and

performing the switch-over by said configurable integrated circuit of said protecting pair unit of said data computing device independently of a CPU,

wherein said data computing device is arranged to operate in a data network according to the protection switching

data communication principles and contains both the configurable integrated circuit of said unit and said configurable integrated circuit of said protecting pair unit.

16. A method according to claim 15, further comprising before the step of signaling the step of detecting a connection fault in the data communication at the unit.

17. A method according to claim 15, further comprising the step of receiving the need at the protecting pair unit and performing the switch over by activating the data communication on the protecting pair unit.

18. A computer readable medium encoded with a computer program comprising a program of instructions executable by a computing system for processing a switch-over in data communication within a data computing device in accordance with a protection switching data communication principles, the computer program product comprising:

computer program code for causing the system to signal a need for the switch-over in real time based data communication from a configurable integrated circuit of a unit of said data computing device to a configurable integrated circuit of a protecting pair unit of said unit of said data computing device, and

computer program code for causing the system to perform the switch-over by said configurable integrated circuit of said

protecting pair unit of said data computing device independently of a CPU when the switch-over is needed,

wherein said data computing device is arranged to operate in a data network according to the protection switching data communication principles and contains both the configurable integrated circuit of the unit and the configurable integrated circuit of the protecting pair unit.

19. The system according to claim 1, wherein said unit comprises a card and said protecting pair unit comprises another card.

20. The system according to claim 5, wherein said working unit comprises a card and said protecting unit comprises another card.

21. The system according to claim 1, wherein said unit is structured and arranged to send a protection message to said protecting pair unit, said protecting pair unit is structured and arranged to interpret the message and perform the switch-over, if necessary.

22. The system according to claim 3, wherein said configurable integrated circuit is an application-specific integrated circuit.

9. **Evidence Appendix**

None.

10. **Related Proceedings Appendix**

None.